California Regional Water Quality Control Board
Santa Ana Region

March 15, 2002

ITEM:

SUBJECT: Amendment to Order No. 01-9, NPDES No. CA0105619, Waste Discharge Requirements, Yucaipa Valley Water District, Henry N. Wochholz Wastewater Treatment Facility, San Bernardino County, Order No. R8-2002-0017-A01

DISCUSSION:

On June 1, 2001 the Regional Board adopted Order No. 01-9, NPDES No. CA0105619, prescribing waste discharge requirements for Yucaipa Valley Water District's (YVWD) Henry N. Wochholz Wastewater Treatment Facility. YVWD discharges tertiary treated wastewater to San Timoteo Creek, which is tributary to Reach 5 of the Santa Ana River. Except during storms, most of the flow in the Creek is composed of YVWD's discharge. Amendment of Order No. 01-9 is proposed in order to revise the final effluent limitations for copper.

As shown in the following table, Order No. 01-9 specifies both interim and final effluent limitations for copper. The interim limitations were based on the limitations in the prior waste discharge requirements for YVWD (Order No. 96-4), while the more stringent final limitations were based on the California Toxics Rule, promulgated by the US Environmental Protection Agency (EPA) in May 2000. Order No. 01-9 specifies that the final copper limitations shall become effective on July 1, 2002.

Copper	Maximum Daily Limit (µg/l)	Average Monthly Limit (µg/l)	Daily Mass Rate (lbs/day)	Average Monthly Mass Rate (lbs/day)
Interim Limits in Order No. 01-9	72	46	2.7	1.7
Final limits in Order No. 01-9	52.7	26.3	1.98	0.99

This interim limit/compliance schedule approach was approved by the Regional Board based on the demonstration by YVWD that immediate compliance with the final, CTR-based limits was infeasible. YVWD also proposed to conduct a study to verify that the final effluent limits were justified.

The water quality objective for copper specified in the California Toxics Rule for inland surface waters is in the form of an equation that includes a site specific water effect ratio (WER[1]) multiplier[2] factor. The WER reflects any effect that local site water constituents have on increasing or reducing the bioavailability and toxicity of copper. Application of the WER multiplier, where available, allows for site-specific adjustment of the copper objective. In turn, the copper objective becomes the basis for developing appropriate effluent limitations. In the absence of a site specific WER multiplier, the CTR uses a value of one. In Order No. 01-9, the final copper effluent limitations were based on the CTR objective assuming a WER multiplier of one, since no site-specific data were available to justify a different multiplier.

YVWD proposed to conduct a water effects ratio study to develop a site specific copper multiplier for the discharge in accordance with USEPA's new guidance ("Streamlined Water Effect Ratio Procedure for Discharges of Copper," (EPA-822-R-01-005)). This guidance was published in March 2001. Order No. 01-9 required YVWD to submit a completed report on the Water Effects Ratio Study and the site specific WER multiplier for copper by December 1, 2001, for approval by the Executive Officer.

On November 13, 2001, YVWD's consultant, Risk Sciences, submitted the "Final Report for Copper Water Effect Ratio." Regional Board staff have reviewed this report and have determined that the WER test results are reliable. The study methodology complies with EPA's streamlined guidance document.

The study results indicate that the WER for total recoverable copper in the receiving waters affected by YVWD's discharge is 4.39. Accordingly, the permit limits for copper, expressed in the total recoverable form, could theoretically be increased by a factor of 4.39. Such limits would meet the site-adjusted water quality objective and thereby protect beneficial uses. However, state and federal antidegradation policies must also be taken into account in specifying the limits. The following table shows the recalculated effluent limits for copper using the WER.

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1 *WER is the ratio of a constituent's EC50 value in "site water" to the same value in "laboratory water". "EC50" is the statistically or graphically derived best estimate of the concentration of test material that is expected to cause a measured sublethal effect in 50% of the test organisms under specified conditions (see ASTM Standard E 943).*

2 *Finding 39 of Order No. 01-9 makes references to a WER "translator". The proposed Order would amend this language to apply the correct term, which is "multiplier".*

	Maximum Daily Limit (µg/l)	Average Monthly Limit (µg/l)	Daily Mass Rate (lbs/day)	Average Monthly Mass Rate (lbs/day)
Final limits in Order No. 01-9	52.7	26.3	1.98	0.99
Recalculated Limits	56.5	28.19		
WER	4.39	4.39		
Recalculated Total Recoverable Copper Limits using the WER	248.0	123.0	9.31	4.62

Effluent monitoring data demonstrate that YVWD can consistently comply with the interim copper effluent limitations in Order No. 01-9, which are more stringent than those developed using the WER of 4.39. Allowing discharges by YVWD at the higher, WER-adjusted limits would result in the lowering of water quality in the Creek (again, the discharge essentially constitutes the receiving waters in the Creek). Pursuant to antidegradation policy, the lowering of water quality can be allowed only if beneficial uses are protected, and if there is a maximum benefit to the people of the State. In this case, beneficial uses would be protected, satisfying the first condition. However, YVWD has not demonstrated that there would be a maximum benefit to the people of the State.

Accordingly, the proposed Order No. R8-2002-0017-A01 would amend Order No. 01-9 by specifying that the final effluent limitations for copper shall be the same as the interim limitations established in Order No. 01-9 (and the copper limits of Order No. 96-4). Compliance with these limitations will prevent the lowering of water quality. Antidegradation considerations thereby become moot. Antibacksliding considerations are likewise moot since the proposed limits are as stringent as those established in existing and prior waste discharge requirements. (The final copper effluent limitations in the proposed Order are less stringent than the final limits specified in Order No. 01-9. However, the final limits in Order No. 01-9 have not yet taken effect. Antibacksliding does not apply to changes made to an effluent limitation prior to its compliance date.)

The proposed effluent limits will assure compliance with the copper water quality objective specified in the CTR and the protection of beneficial uses.

RECOMMENDATION:

Adopt Order No. R8-2002-0017-A01 as presented.

Comments were solicited from the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) - Terry Oda
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service - Carlsbad
State Water Resources Control Board, Office of the Chief Counsel - Jorge Leon
State Water Resources Control Board, Division of Water Quality - James Kassel
State Department of Water Resources - Glendale
State Department of Fish and Game - Long Beach
State Department of Health Services, Carpenteria - Jeff Stone
San Bernardino County Department of Public Works, Env. Mgmt Div. - Jim Borcuk
San Bernardino County Environmental Health Services - Scott Maass
Santa Ana Watershed Project Authority – Joseph Grindstaff
Santa Ana River Dischargers Association -
Southern California Association of Governments -
South Coast Air Quality Management District -
Orange County Water District - Nira Yamachika
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper

California Regional Water Quality Control Board
Santa Ana Region

ORDER NO. R8-2002-0017-A01

Amending Order No. 01-9, NPDES No. CA0105619
Waste Discharge Requirements
for
Yucaipa Valley Water District
Henry N. Wochholz Wastewater Treatment Facility
San Bernardino County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. On June 1, 2001, the Board adopted Order No. 01-9, NPDES No. CA0105619, renewing waste discharge requirements for Yucaipa Valley Water District (hereinafter YVWD or discharger) for the discharge of tertiary treated wastewater into Reach 3 of San Timoteo Creek, a tributary to Reach 5 of the Santa Ana River.

2. Order No. 01-9 specifies both interim and final effluent limitations for copper. The interim limitations were based on the limitations in the prior waste discharge requirements for YVWD (Order No. 96-4), while the more stringent final limitations were based on the California Toxics Rule, promulgated by the US Environmental Protection Agency (EPA) in May 2000. Order No. 01-9 specifies that the final copper limitations shall become effective on July 1, 2002. This interim limit/compliance schedule approach was approved by the Regional Board based on the demonstration by YVWD that immediate compliance with the final, CTR-based limits was infeasible. YVWD also proposed to conduct a study to verify that the final effluent limits were justified.

3. The water quality objective for copper specified in the California Toxics Rule for inland surface waters is in the form of an equation that includes a site specific water effect ratio (WER[1]) multiplier[2] factor. The WER reflects any effect that local site water constituents have on increasing or reducing the bioavailability and toxicity of copper. Application of the WER multiplier, where available, allows for site-specific adjustment of the copper objective. In turn, the copper objective becomes the basis for developing appropriate effluent limitations. In the absence of a site-specific WER multiplier, the CTR uses a value of one. In Order No. 01-9, the final copper effluent limitations were based on the CTR objective assuming a WER multiplier of one, since no site-specific data were available to justify a different multiplier.

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1 *WER is the ratio of a constituent's EC50 value in "site water" to the same value in "laboratory water". "EC50" is the statistically or graphically derived best estimate of the concentration of test material that is expected to cause a measured sublethal effect in 50% of the test organisms under specified conditions (see ASTM Standard E 943).*

2 *Finding 39 of Order No. 01-9 makes references to a WER "translator". The proposed Order would amend this language to apply the correct term, which is "multiplier".*

4. YVWD proposed to conduct a water effects ratio study to develop a site specific copper multiplier for the discharge in accordance with USEPA's new guidance ("Streamlined Water Effect Ratio Procedure for Discharges of Copper," (EPA-822-R-01-005)). This guidance was published in March 2001. Order No. 01-9 required YVWD to submit a completed report on the Water Effects Ratio Study and the site specific WER multiplier for copper by December 1, 2001, for approval by the Executive Officer.

5. On November 13, 2001, YVWD's consultant, Risk Sciences, submitted the "Final Report for Copper Water Effect Ratio." Regional Board staff have reviewed this report and have determined that the WER test results are reliable. The study methodology complies with EPA's streamlined guidance document. The study results indicate that the WER for total recoverable copper in the receiving waters affected by YVWD's discharge is 4.39. Accordingly, the permit limits for copper, expressed in the total recoverable form, could theoretically be increased by a factor of 4.39. Such limits would meet the site-adjusted water quality objective and thereby protect beneficial uses. However, state and federal antidegradation policies must also be taken into account in specifying the limits. Similarly, regulations pertaining to antibacksliding must also be satisfied.

6. Monitoring data demonstrate that YVWD can achieve consistent compliance with the interim copper effluent limits in Order No. 01-9. These limits are more stringent than the copper limits calculated using the WER multiplier of 4.39. Allowing discharges by YVWD at the higher, WER multiplier- adjusted limits would result in the lowering of water quality in San Timoteo Creek, since the discharge essentially constitutes the flow in the Creek except during storms. Pursuant to antidegradation policy, this lowering of water quality can be allowed if beneficial uses are protected and if there results a maximum benefit to the people of the State. The WER-multiplier-adjusted limits would assure the protection of beneficial uses (see preceding finding). However, YVWD has not demonstrated a maximum benefit to the people of the State. Therefore, no lowering of water quality can be allowed. This means that the effluent limits can be no less stringent than the interim effluent limits specified in Order No. 01-9. Accordingly, the proposed Order specifies copper effluent limitations that are the same as the interim limits established in Order No. 01-9. Since the copper limits are the same, antibacksliding considerations are moot. (The final copper limits specified in Order No. 01-9 are more stringent than the interim limits, however, these final limits have not yet taken effect. Antibacksliding does not apply to changes made to an effluent limitation prior to its effective date.)

7. The proposed effluent limits will assure compliance with the copper water quality objective specified in the CTR and the protection of beneficial uses.

8. Section K. 4. Of Order No. 01-9 specifies that the Order may be reopened if the Regional Board or the discharger develops different site-specific translators for copper that are acceptable to the Regional Board's Executive Officer.

9. In accordance with Water Code Section 13389, the amendment of Order No. 01-9, NPDES No. CA0105619, is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (commencing with Section 21100), Division 13 of the Public Resources Code.

10. The Regional Board has notified the discharger and other interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written views and recommendations.

11. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 01-9 be amended as follows:

1. On Page 7 of 31 of Order No. 01-9, replace Finding 39 with the following paragraph:

    39. Section 2.1 of the State Implementation Policy provides that a compliance schedule may be established in an NPDES permit based on an existing discharger's request and demonstration that it is infeasible for the discharger to achieve immediate compliance with an effluent limitation based on the California Toxics Rule criterion. Yucaipa Valley Water District is an existing discharger and has requested that a compliance schedule for copper be included in the Order. The discharger proposes to conduct a water effects ratio study to develop a site specific copper WER multiplier for the discharge in accordance with EPA's new guidance entitled "Streamlined Water Effect Ratio Procedure for Discharges of Copper," (EPA-822-R-01-005) published in March, 2001. The discharger has also demonstrated that immediate compliance with effluent limitation for copper is infeasible. Consequently, this Order includes interim effluent limitations for copper from June 1, 2001 through June 30, 2002, based on effluent limitations that were in the previous Order No. 96-4. This Order provides that final effluent limitations for copper become effective on July 1, 2002. This Order further requires the discharger to complete the water effects ratio study and develop a site specific WER multiplier for copper by December 1, 2001. It is anticipated that this Order will be reopened prior to July 1, 2002 to consider new final effluent limitations for copper that will be developed using the new site-specific WER multiplier.

2. On Page 10 of 31 of Order No. 01-9, modify table of Section A. 1. e. (2) as follows:

Constituent	Maximum Daily Limit (µg/l)	Average Monthly Limit (µg/l)	Daily Mass Rate (lbs/day)	Average Monthly Mass Rate (lbs/day)
Copper[5]	72	46	2.7	1.7
Cyanide	8.5	4.3	0.32	0.16
Silver	7.7	3.8	0.29	0.14
Selenium	8.2	4.1	0.31	0.15
Limits for hardness dependent metals were computed based on a 167 mg/l hardness value.				

3. On Page 31 of 31 of Order No. 01-9, replace paragraph K.4. as follows:

4. This Order may be reopened if the Regional Board or the discharger develops a different site-specific WER multiplier for copper that is acceptable to the Regional Board's Executive Officer.

4. All other conditions and requirements of Order No. 01-9 shall remain unchanged.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on March 15, 2002.

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Gerard J. Thibeault
Executive Officer

5 *See Section K.4.*